



FRIB—Facility for Rare Isotope Beams, MSU the Costs and Benefits to the State of Michigan

*Summary of Presentation to the
Michigan Senate Energy and Technology Committee
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I. FRIB

The facility for rare isotope beams, known locally as the FRIB and in Washington as the F-RIB, was awarded to Michigan State University by the U.S. Department of Energy after an intense national competition. It will be a DOE-owned facility, which will be operated by MSU. The university's experience with its cyclotron, and its standing at the forefront of national and international particle physics, were strong bases for awarding the facility to MSU.

Another basis included the commitments from the State of Michigan to provide some financial support for the construction of the facility. We discuss this further below, along with options for the state to fulfill these commitments.

II. Benefits to State; Tax Revenue

In June 2008, Anderson Economic Group completed a net economic benefit analysis of the FRIB project in Michigan. We used conservative assumptions about the possible alternative uses of the land and the share of construction expenditures that would go out of state. Our study found that the FRIB would be one of the largest single projects, in terms of net economic benefit, in the recent history of Michigan.

The FRIB will involve approximately \$615 million to build. Including the early-year operating expenditures, we estimated the total expenditures caused by the FRIB in Michigan will exceed \$1 billion over the first decade of operation. Almost all of these expenditures would be made in other states (and some in other countries) if the FRIB is not built here. We estimated at that time that the additional tax revenue that the state government would earn from the construction and operation of the FRIB during the first decade would exceed \$187 million. The total job impact within the State of Michigan during the construction phase alone totaled over 5,000 one-year job equivalents.

III. History of State Commitments

Most of the funding for the construction and operation of the FRIB will come from the federal government. However, a fraction of the cost must come from State of Michigan sources. The

promises of the previous governors and the Michigan Economic Development Corporation (MEDC) on this point (including the written commitments) were part of the basis for the plan approved by the DOE when they awarded Michigan the facility.

IV. Construction Schedule

The construction schedule that accompanied the DOE's "CD-1 Preferred Alternative" approval in September 2010, called for the DOE to pay \$30 million, \$55 million, and \$100 million in the fiscal years of 2012, 2013, and 2014, respectively. The DOE's construction funding would then climb to \$141 million, \$78 million, \$51 million, and \$35 million in the following years. By comparison, the commitment from State of Michigan sources during those years is \$5 million in 2012, \$42 million in 2013, and an amount of approximately \$10 million in the years after 2015.

Consistent with the anticipated very large payments by the DOE for the construction of the facility, the DOE will be the owner of the facility itself. DOE funding, like all Federal Government funding, is subject to appropriation risk. The state should expect that changes to their schedule and the need to remind the Federal Government of its commitments.

V. Funding Options for the State Portion

The state, as is obvious to all concerned, is emerging from a severe recession and suffering from past budget woes. Any commitment of state funds will—and should be—carefully scrutinized. It is against this backdrop that we identified possible funding options for the state portion of the construction costs of the FRIB. In particular, we considered the current budget environment, recent tax changes (including the replacement of the Michigan Business Tax by a 6% corporate income tax), changes to the tax incentive structure and economic development policy of the state (including the elimination of many business tax incentives, such as the film credit, and the changes to the MBT); and the state's debt load relative to the state's income.

Just as important as these factors, we also considered the tremendous economic benefits of the project (including both the construction and the ongoing operations); the fact that the DOE will foot the majority of the construction costs; and the importance of highlighting to the world the technological expertise in the State of Michigan.

In February 2011, we reviewed the FRIB project and found that a state funding commitment in the range of \$50 to \$100 million over the next decade is quite reasonable given the likelihood that the state would gain \$187 million in direct state tax revenue from the additional net economic benefit. We also noted that this approximately 2:1 benefit-to-cost ratio was estimated using much, much more conservative assessments of the benefits than is standard for MEGA projects. As of March 2012, we continue to believe the project offers tremendous economic benefits to Michigan.

VI. Conservative Approach and Methodology

We have used quite conservative assumptions in our analysis, including the following: fully \$200 million of the construction spending goes out of state; 40% of the new jobs at the FRIB are shifted from existing Cyclotron operations; the existing Michigan labor market would readily supply most of the indirectly-created jobs; and the facility and its operation would be completely tax-exempt. Although it is easy to exaggerate the benefit (e.g. "take all the spending and multiply by two"), there is no need to do so.

Investing in the FRIB would be a home run for Michigan. We rarely get to even bat in this league. Our judgement is that it is clearly worth a full-scale effort by the state to bring it here.

About Patrick L. Anderson

Mr. Anderson founded Anderson Economic Group in 1996, and serves as a Principal and Chief Executive Officer in the company.

Mr. Anderson has taken a leading role in several major public policy initiatives in his home state; he was the author of the 1992 Term Limit Amendment to the Michigan Constitution, and also the author of the 2006 initiated law that repealed the state's 4-decade-old Single Business Tax. Before founding Anderson Economic Group, Mr. Anderson was the deputy budget director for the State of Michigan under Governor John Engler, and Chief of Staff for the Michigan Department of State.

*Mr. Anderson has written over 100 published works, including the book *Business Economics and Finance* and the chapter on business valuation in the book *Litigation Economics*. He is also the executive editor of three editions of the *State Economic Handbook*. His 2004 article "Pocketbook Issues and the Presidency" and his 2009 paper "The Value of Private Businesses in the United States" have each been awarded for outstanding writing from the National Association of Business Economics. Anderson's views on the economy are often cited by national news media including *The Wall Street Journal*, *New York Times*, *National Public Radio*, and *Fox Business News*.*

About Anderson Economic Group, LLC

Anderson Economic Group is a consulting firm specializing in economics, public policy, and financial valuation for clients across the U.S. with offices in East Lansing, Michigan and Chicago, Illinois.

Past efforts have resulted in change in sales tax law (1998); reform to laws on property tax reversion (1999); creation of an IPPT credit (2005); repeal of the SBT (2006), creation of a Michigan EITC (2008), repeal of Michigan's Item Pricing Law (2011).